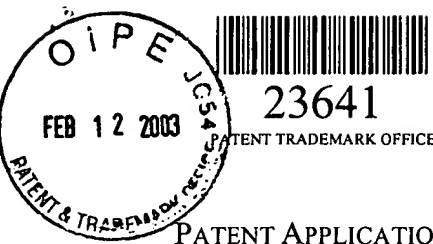


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**PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Customer No.: 23641
Application No.: 09/584570
Confirmation No.: 3873
Filing Date: May 31, 2000
Group Art Unit: 2863
Examiner Name: Tung S. Lau
Attorney Docket No.: 28908/82353
First Named Inventor: Steven M. Reynolds
Title: PUMP AND METHOD FOR FACILITATING MAINTENANCE AND ADJUSTING OPERATION OF SAID PUMP

Certificate Under 37 CFR 1.8(a)

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on February 6, 2003

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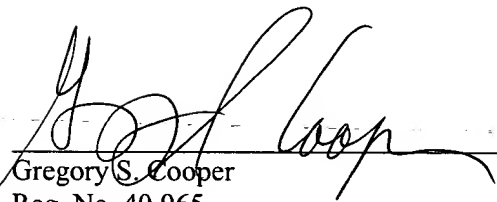
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| <input type="checkbox"/> Fee Attached | <input type="checkbox"/> Express Abandonment Request |
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| <input type="checkbox"/> After Final | <input type="checkbox"/> Certified Copy of Priority Document(s) |
| <input type="checkbox"/> Affidavits/declaration(s) | |

- ☐ Response to Missing Parts/Incomplete Application
 - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Assignment Papers (for an Application)
- ☐ Drawing(s)
- ☐ Licensing-relating Papers
- ☐ Petition Routing Slip (PTO/SB/69) and Accompanying Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
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- ☐ Request for Refund
- ☐ After Allowance Communication to Group
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- ☐ Proprietary Information
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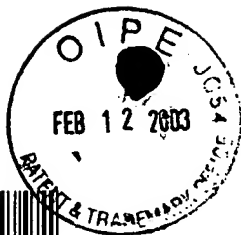
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Date: February 6, 2003

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23641

PATENT TRADEMARK OFFICE

#10 / Response
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2/14/03
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RESPONSE TO OFFICE ACTION

Box Non-Fee Amendment
Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

Applicants wish to acknowledge with appreciation the Examiner's analysis and efforts in examining this application. The Official Action of November 7, 2002, has been thoroughly studied. Accordingly, the Examiner is respectfully requested to reconsider the rejections to Claims 1 through 39, 47, 48, 50, 51, and 53. The amendments and remarks made in

response to the first Official Action, as well as the following additional remarks made herein, are believed to be sufficient to place this application into condition for allowance.

On pages 2 and 3 of the Official Action, the Examiner rejected Claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 36, 38, 39, 47, 48, 50, 51, and 53 under 35 U.S.C. § 103(a) as being obvious under Miller (U.S. Patent 5,563,351) in view of Buck, et al. (U.S. Patent 5,996,422), and Garrett, et al. (U.S. Patent 4,951,271). The Examiner alleges that Miller discloses maintenance of a pump having wear parts (col. 1, lines 61-65), processor (col. 2, lines 52-58), memory (col. 3, lines 36-49), operational data of the pump storing in the memory from a sensor, storing part identification and the wear part, update and compare the data to determine a particular part if it need to replace (col. 3, lines 17-37), modify the operation of the pump according to data from sensor output is a cycle flow rate, filling rate (col. 3, lines 39-49), the sense element is a temperature (col. 3, lines 12-17), pressure (col. 2-3, lines 59-7), acceleration rate (col. 3, lines 38-49), communicate with stand alone computer (see fig. 2), link to other processor (col. 4, lines 7-31), sense at least one structural operating behavior of the pump (col. 1, lines 60-67).

The Examiner has determined that Miller does not disclose a diaphragm type pump or acoustic sensing technique. As alleged by the Examiner, however, Buck discloses the usage of the diaphragm type pump (col. 3, lines 30-50), for a precise control system (col. 1, lines 40-51). Furthermore, the Examiner alleges that Garrett, et al. discloses using an acoustic vibration sensing to have a low cost and high sensitivity system (col. 2, lines 19-48).

The Examiner indicates that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Miller to have the use of a diaphragm type pump and acoustic sensing as taught by Buck and Garrett, et al. in order to predict wear in the system at low cost and high sensitivity.

It is respectfully submitted that the Examiner's combination of Miller and Buck with Garrett, et al. to find the presently claimed invention is in error. Applicants respectfully traverse this rejection and request reconsideration.

Longstanding law requires that to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references, or to combine references' teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

The Examiner is believed to be essentially arguing that, because the acoustical sensor of Garrett, et al. has "low cost" and "very high sensitivity," one skilled in the art, with nothing more, would be motivated to add that sensor to the pumps of Miller and Buck to get the Applicants' claimed invention. Specifically, with respect to the Examiner's "low cost" argument, such is merely an unsupportable and vague conclusion not even found in column 2, lines 19-28, of the Garrett, et al. patent. The only apparent reference to cost in Garrett, et al. is that prior art acoustic sensors are of "high cost." (See column 1, line 12.) This comparison, however, is between old generation and new generation acoustic sensors, not between acoustic and other types of sensors, like infrared and heat, for example.

In legal terms, such vague references to relative cost would typically be referred to as "puffery," as opposed to "motivation." The phrase "low cost" is not a supportable position when combining the two references, because there is no benchmark with which to make a comparison of expense. There is no teaching in any of the references expressing a need for a low cost sensing alternative to the sensor disclosed. There is also nothing in Garrett, et al. or any of the references to teach or motivate one skilled in the art to replace the flow sensors in Miller with the acoustical sensor of Garrett, et al. because of financial considerations. There is no teaching that indicates the sensors in Miller is more expensive than the sensor disclosed in Garrett, et al. Such financial considerations are not even addressed in the references, nor explained or evidenced by the Examiner. In fact, because of the inherently relative and subjective nature of

financial considerations, and because no such information even exists in any of the references, it is respectfully believed that such cannot even rise to the level of a motivating factor in this case.

Furthermore, it is notable that Garrett, et al. does not describe which uses or applications it is best suited. Rather, Garrett, et al. only describes the structural and functional detail of an omnidirectional hydrophone without any use information. There is no teaching in Garrett, et al. how one skilled in the art of pumps can adapt the sensors for use in such pumps. No argument has been set forth by the Examiner as to how and to what extent the pump in Miller would have to be modified in order to accommodate the sensor of Garrett, et al.

If the Examiner is taking an Official Notice position, Applicants respectfully traverse such a position and request documentary material and/or an affidavit from the Examiner pursuant to MPEP 2144.03 as evidence to that position so a complete response can be made.

With respect to the Examiner's position that the sensor has "very high sensitivity," such an argument is not so much an argument as it is a mere restatement of its function as a sensor. In other words, the argument appears to be that combining an acoustical sensor with a pump is obvious because the one prior art reference discloses a pump that pumps, and a second unrelated prior art reference discloses a sensor that senses. The Examiner's arguments are conclusory statements that substitute mere definitions of elements for quantitative evidence that one skilled in the art would be motivated to combine the references to teach the present invention. It is respectfully believed that describing the mere function or definition of a structure as a substitute for providing motivation or teaching is believed an improper analysis to find motivation for a *prima facie* case of obviousness.

In addition, it has also been longstanding law that an examiner cannot pick and choose among individual elements of assorted prior art references to recreate the claimed invention. Smithkline Diagnostics, Inc. v. Helena Laboratories Corp., 8 USPQ 2d 1468, 1475 (Fed. Cir. 1988). Rather, the examiner has the burden to factually support any teaching or suggestion in the references to conclude the claimed invention is obvious. (See MPEP 2142.)

If all that were required to show motivation to evidence a *prima facie* case of obviousness was to recite the definition of the element being sought, then virtually all inventions

would be obvious. It would be the case, as it is with the rejection to the claims of the present application, that a nexus suggesting or teaching a motivation that makes it desirable to combine the references would no longer be necessary. (See MPEP 2143.01.) Rather, it would only be necessary to pick and choose structures for each claim limitation from any number of unrelated references, state the definition of each structure, and merely conclude that because of those definitions, one skilled in the art would recognize such a combination, regardless of any other consideration, and the invention would be deemed obvious. With respect, such is not believed to be the standard for establishing motivation to combine the references, and in fact, such an approach essentially vitiates the motivation requirement. This appears to be precisely what the Smithkline case was trying to prevent. Specifically regarding the instant case, it is respectfully believed that to make an obviousness teaching proper, some teaching, suggestion, or motivation must exist beyond the fact that a sensor senses, particularly where the sensor has nothing to do with any pumps.

It is, thus, respectfully believed that no such suggestion exists to combine the sensor of Garrett, et al. with the pump of Miller simply because mere unsubstantiated notions that the acoustical sensor is inexpensive relative to other acoustical sensors, and that it senses. Reconsideration and withdrawal of this rejection is respectfully requested.

On pages 3 and 4 of the Official Action, the Examiner rejected Claims 6, 30, and 37 also under 35 U.S.C. § 103(a) as being obvious under the combination of Miller in view of Buck, and Garrett, et al. as applied to the claims above, and further in view of Kubota, et al. (U.S. 6,192,299).

The Examiner alleges that the Miller combination discloses a method of including the subject matter discussed above, except for the usage of the check valve in the system, and Kubota uses a check valve in the system to direct flow (col. 7, lines 6-7, lines 66-13), to have an accurate automatic measured operation characteristic (col. 3, lines 25-30).

The Examiner, thus, concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Miller to have the usage of the check

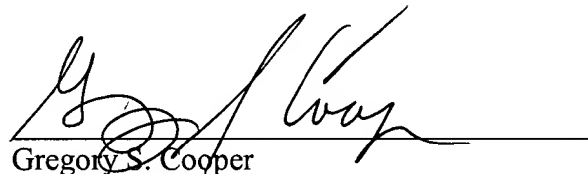
valve in the system in order to have an accurate automatic measured system to adjust the operation of a pump.

As discussed with respect to the prior objection, it is respectfully submitted that no motivation has been established by the Examiner to combine Garrett, et al. with any other reference to describe the claimed invention. It is, thus, respectfully requested that reconsideration and withdrawal be given to this rejection.

If, upon consideration of the above, the Examiner should feel that there remain outstanding issues in the present application that could be resolved, the Examiner is invited to contact Applicants' patent counsel at the telephone number given below to discuss such issues.

To the extent necessary, a petition for an extension of time under 37 C.F.R. §1.136 is hereby made. To the extent additional fees are required, please charge the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 02-1010 (28908/82353) and please credit any excess fees to such deposit account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Gregory S. Cooper', is written over a horizontal line.

Gregory S. Cooper

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